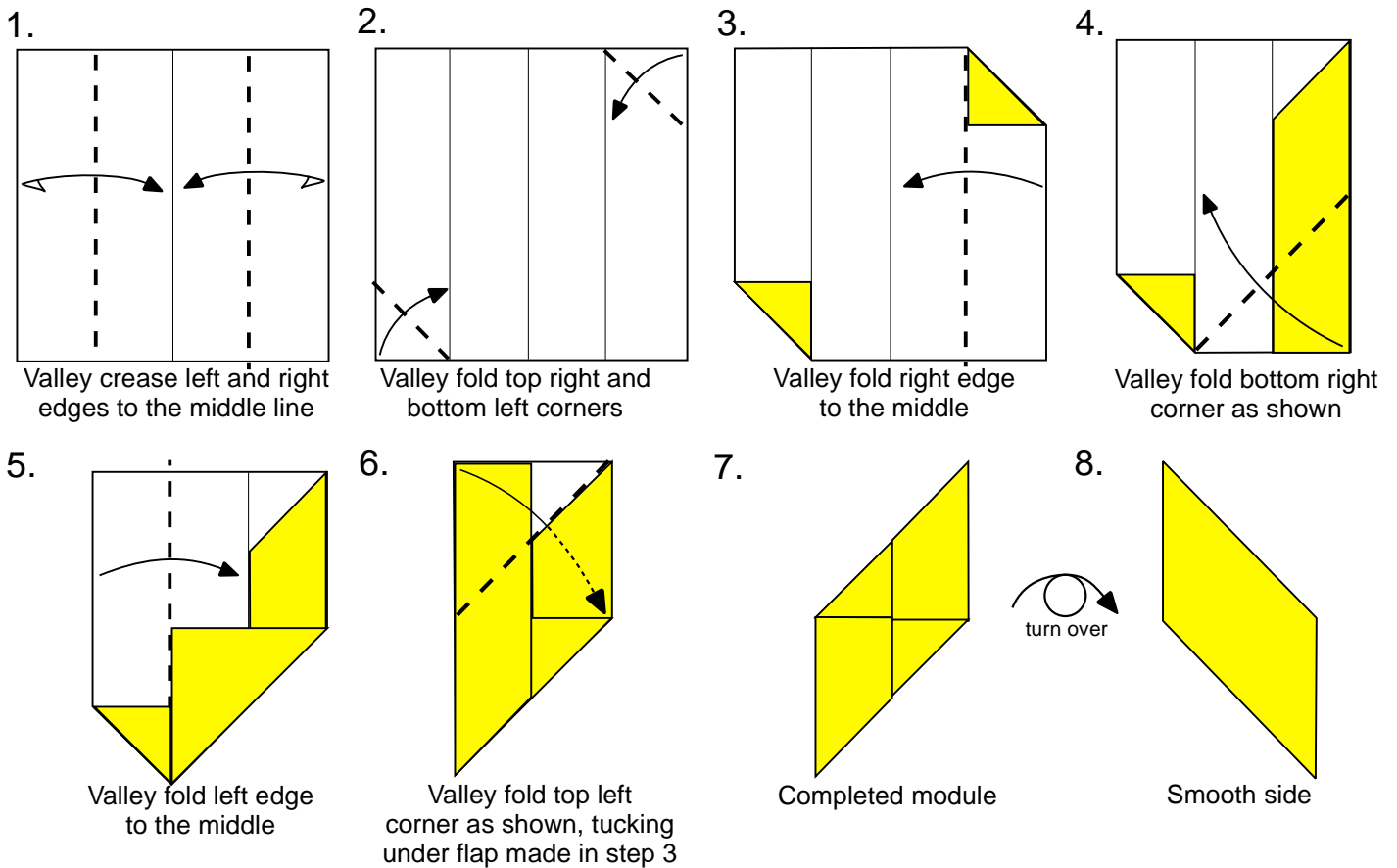
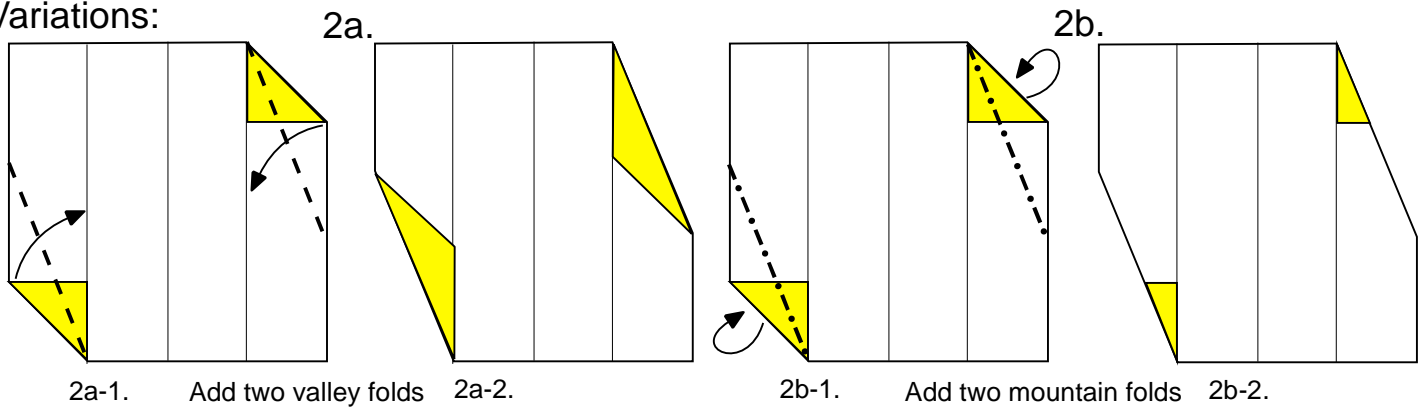


How to Fold the Sonobè Module & some Variations ...

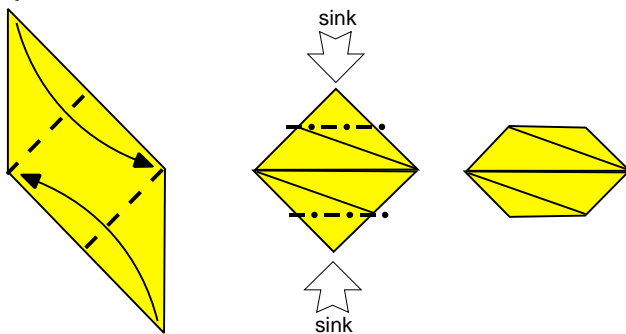
diagrams by Michael Naughton
(original version ©1990) ©2011



Variations:

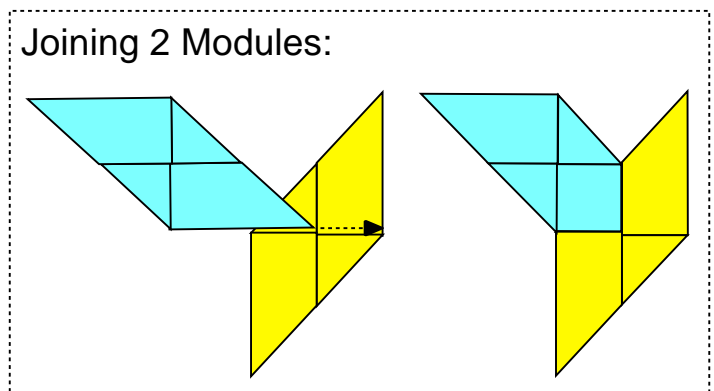


Dimpled Module:



Begin with variation 2a

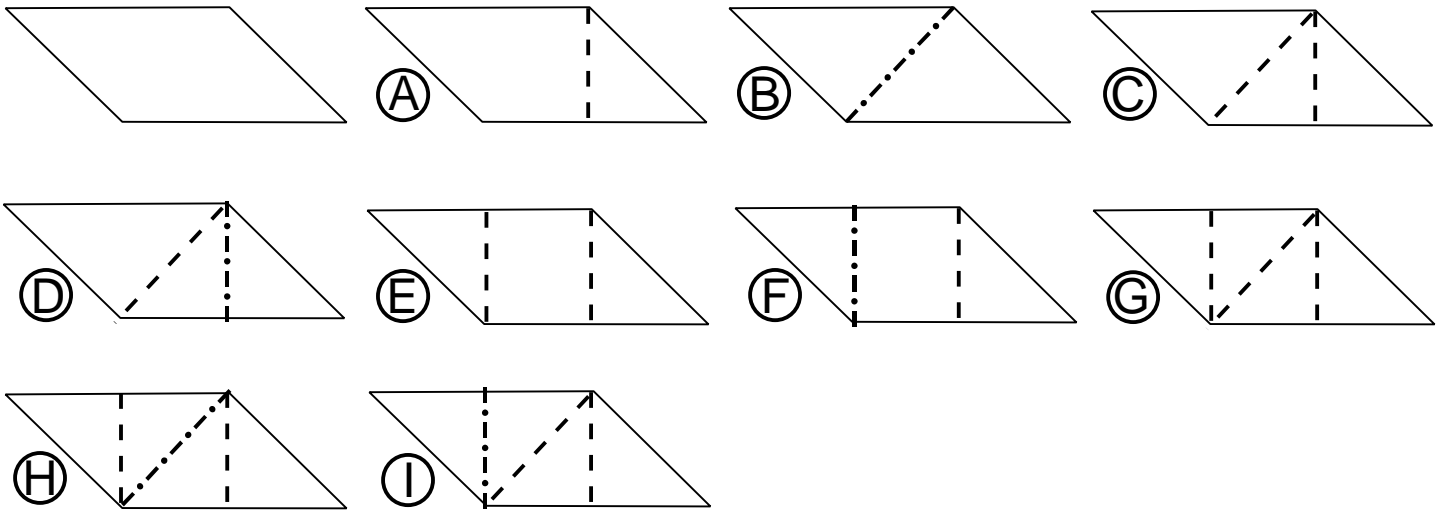
Joining 2 Modules:



Basic Crease Patterns for Sonobè Modules & Some of the Models They Produce

diagrams by Michael Naughton
(original version ©1990) ©2010

Begin with module smooth side up

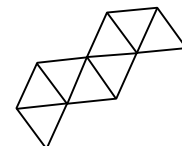


Regular Models:

Coaster/Mat	2 x (E)
Hexahedron	3 x (G)
Coaster/Mat	4 x (B)
Hexahedron	6 x (C)
Cube (c. Sonobè)	6 x (E)
Coaster/Mat	8 x (A)
Cube	12 x (B)
Stellated Octahedron	12 x (H)
Cube	24 x (A)
Cuboctahedron	24 x (D)
12-pointed Star	24 x (I)
Stellated Octahedron	24 x (D)
Stellated Icosahedron	30 x (H)
24-pointed Star	48 x (I)
30-pointed Star	60 x (I)
Stellated Icosahedron	60 x (D)

Non-Regular Models:

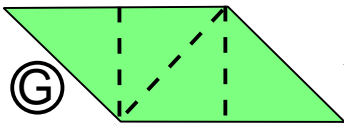
"Squashed" Cube	3 x (E)
	3 x (I)
"Tesserae Dividenti"	6 x (E)
	3 x (H)
One-Half Stellated Octahedron (c. Tom Hull)	3 x (G)
	3 x (H)
	3 x (I)
Stand/Molar	3 x (G)
	6 x (I)
"Snake"	10 x (G)
	14 x (H)



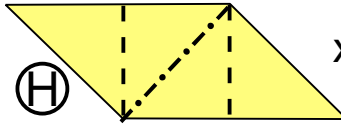
NB: In general, a model can be made "inside out" by reversing the creases in the module.

The "Snake" - a 24-piece Sonobè module construction

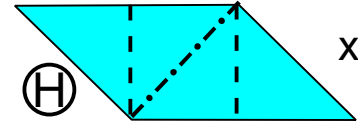
diagrams by Michael Naughton
 (original version ©1990) ©2010
 c. Michael Naughton 1991



x 10



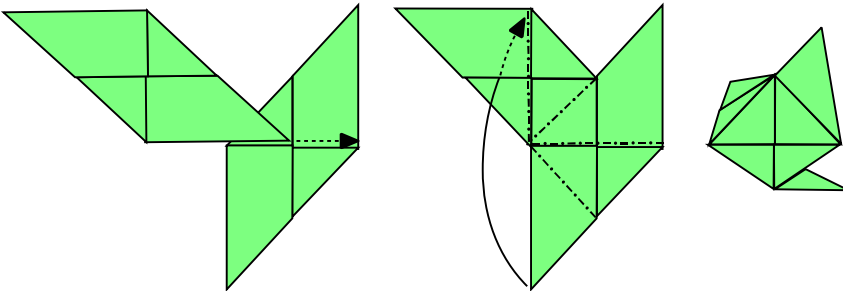
x 7



x 7

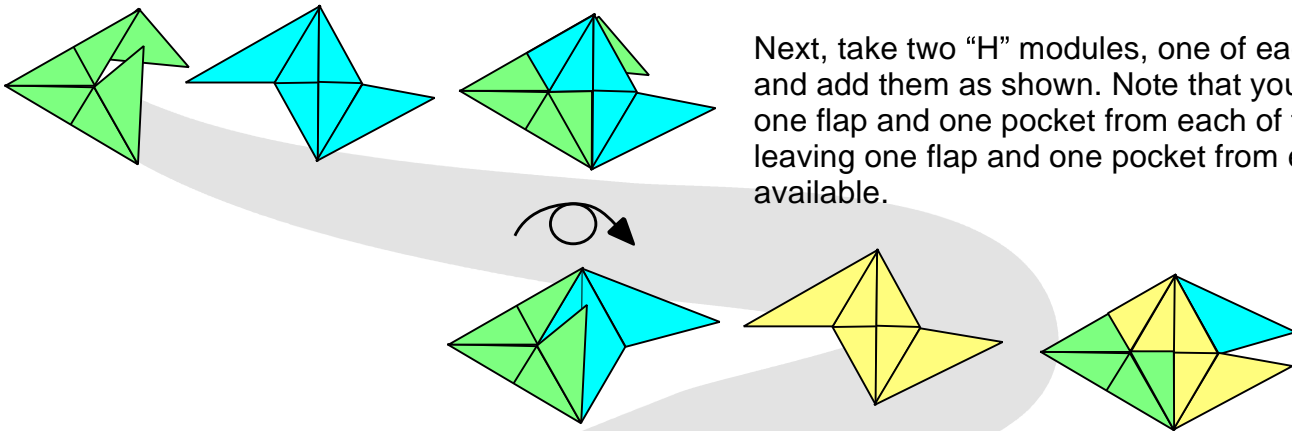
Begin with 10 modules using crease pattern "G" and 14 using crease pattern "H". A coloring suggestion is to use 7 "H" modules of one color, the other 7 "H"s of a fairly different color, and 10 "G" modules of a color that is somewhere between the colors of the "H" modules.

1.



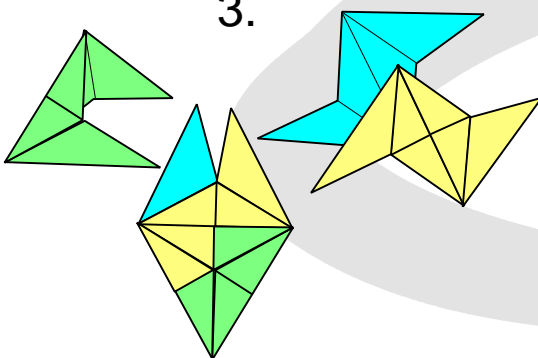
First, join two of the "G" modules as shown, as if you were making the 3-piece hexahedron (aka "Takahama's Jewel", as shown in Eric Kenneyway's Paperfolding for Fun, p. 64)

2.



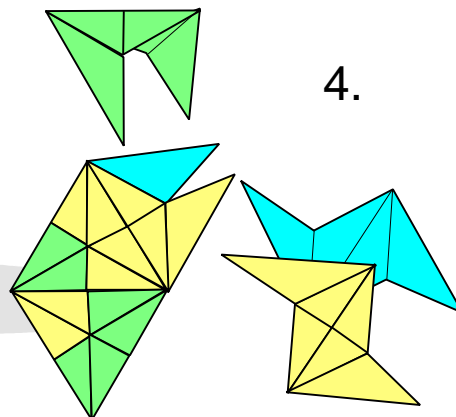
Next, take two "H" modules, one of each color, and add them as shown. Note that you will use one flap and one pocket from each of the "H"s, leaving one flap and one pocket from each still available.

3.

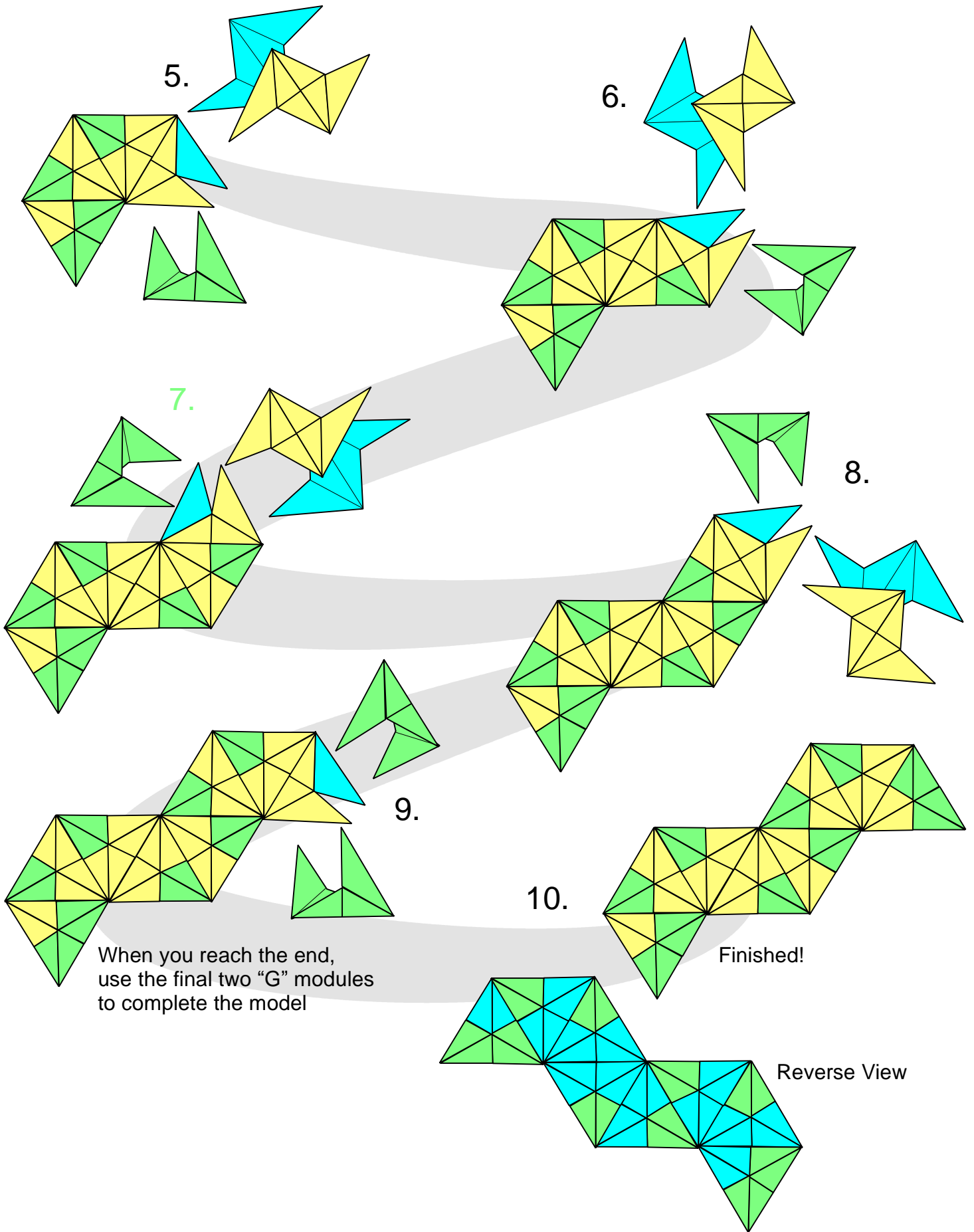


Next, add one "G" and two "H" modules as shown.

4.



Continue by adding one "G" and two "H" modules as shown.



5.

6.

7.

8.

9.

10.

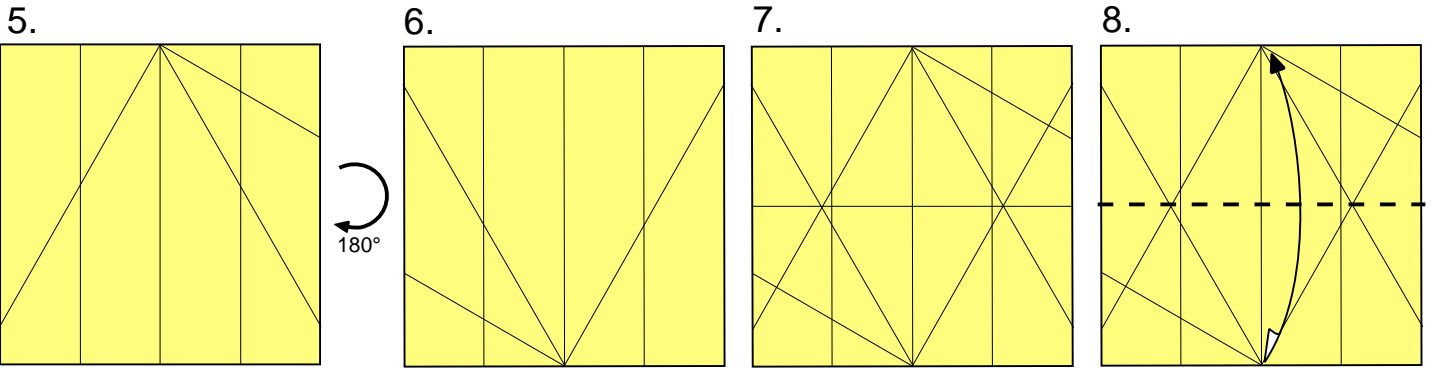
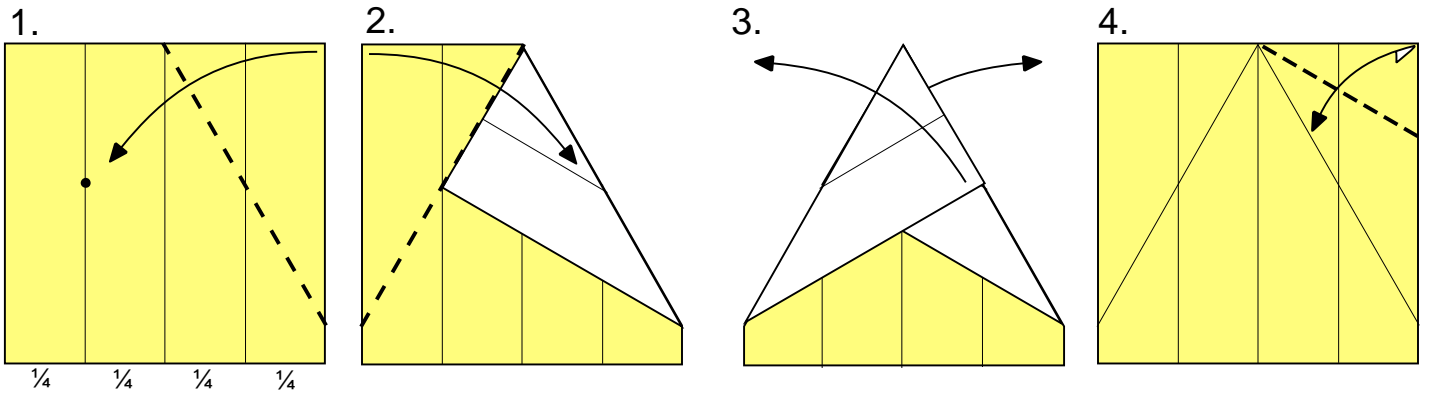
When you reach the end,
use the final two "G" modules
to complete the model

Finished!

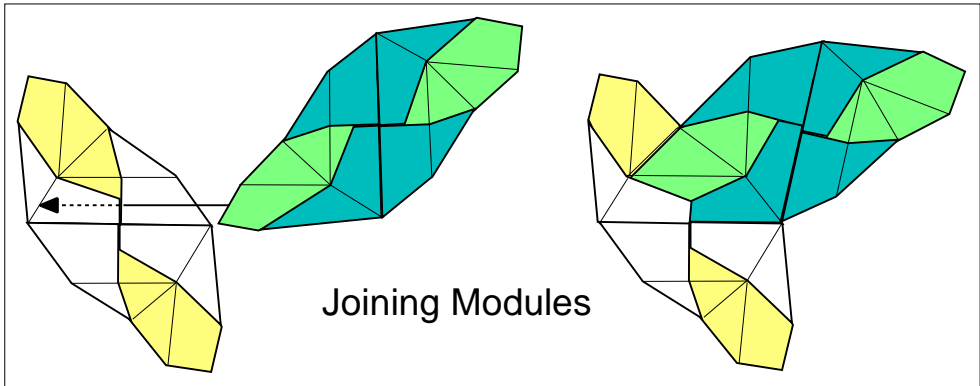
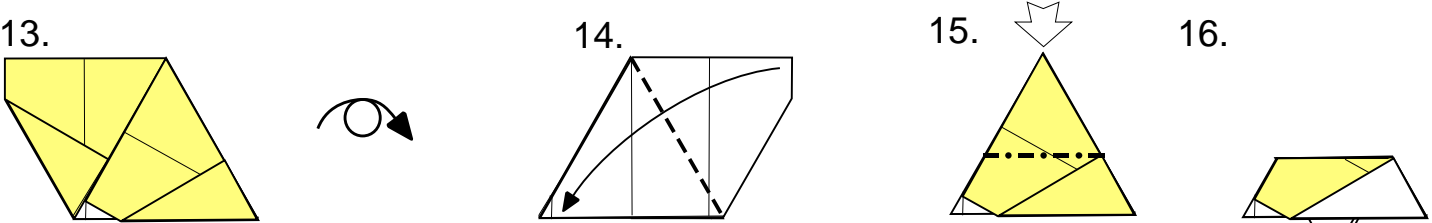
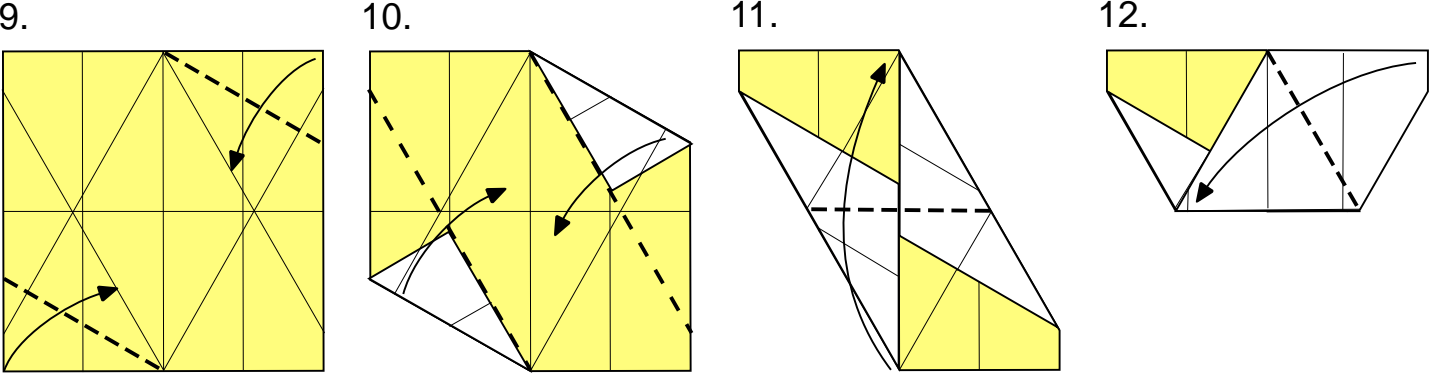
Reverse View

Sunken Equilateral Module

created by Michael Naughton
diagrams ©1995 & ©2010



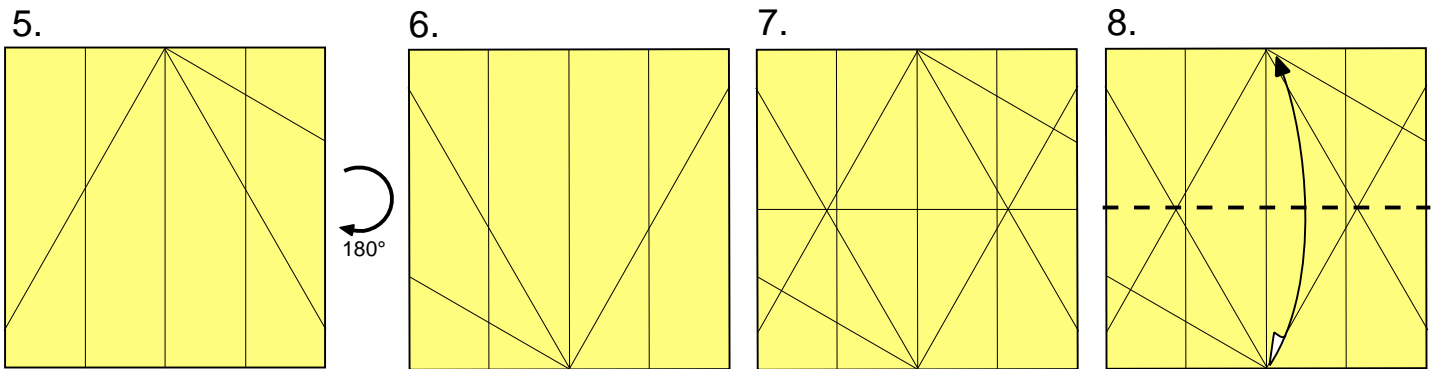
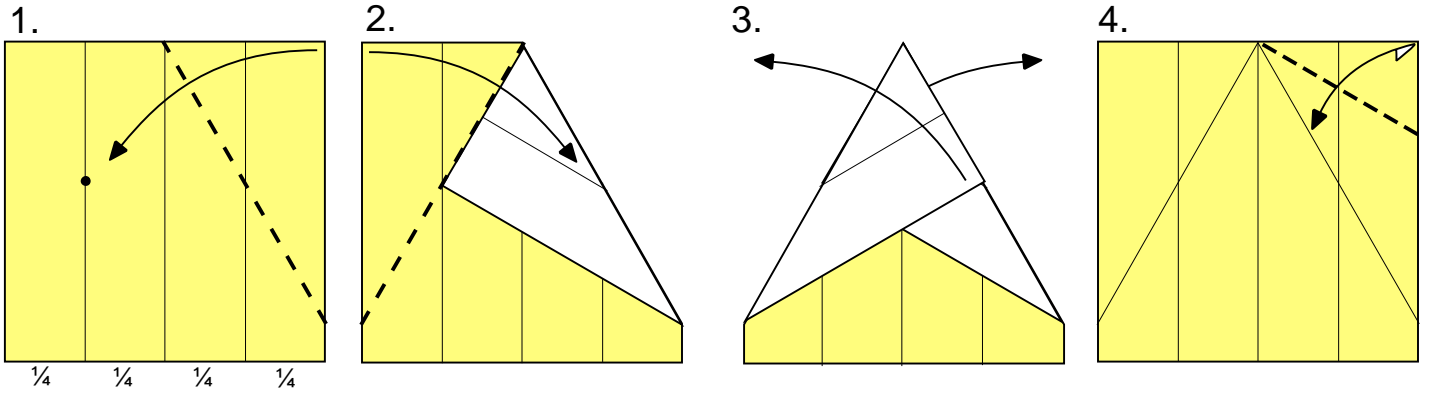
Repeat steps 1 - 4 Crease pattern



Note: Start with the white side up for models with a different color pattern.

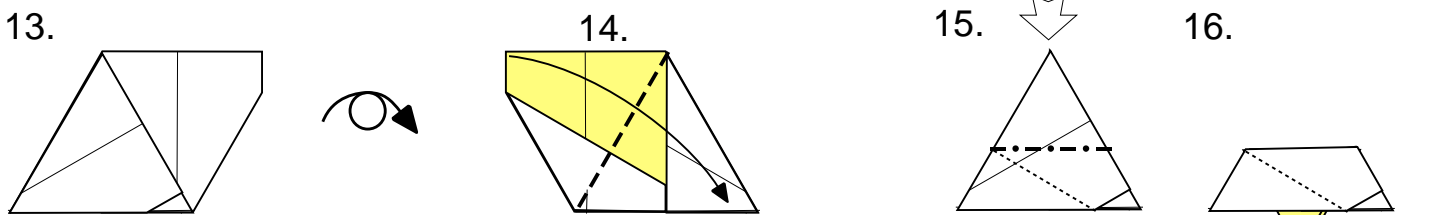
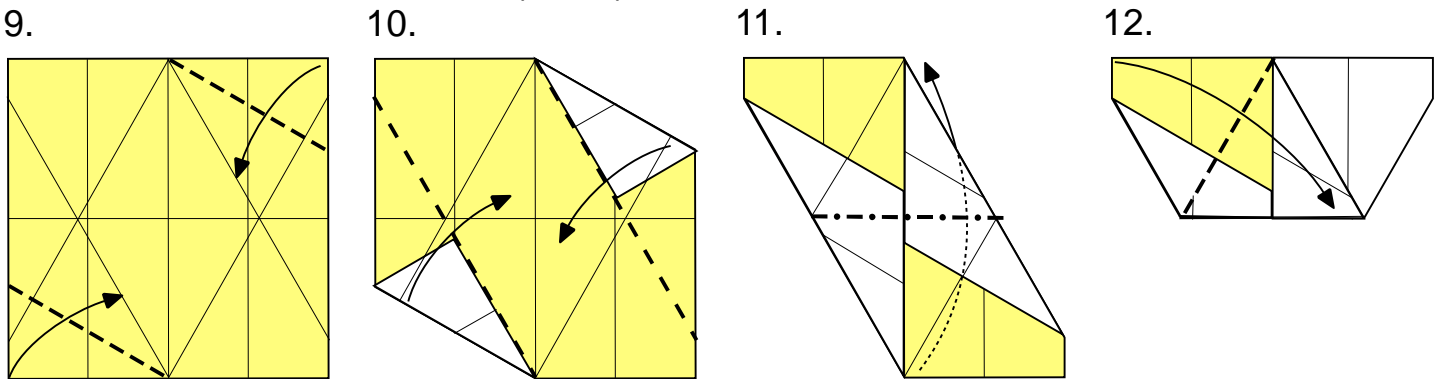
Pointed Equilateral Module

created by Michael Naughton
diagrams ©1995 & ©2010

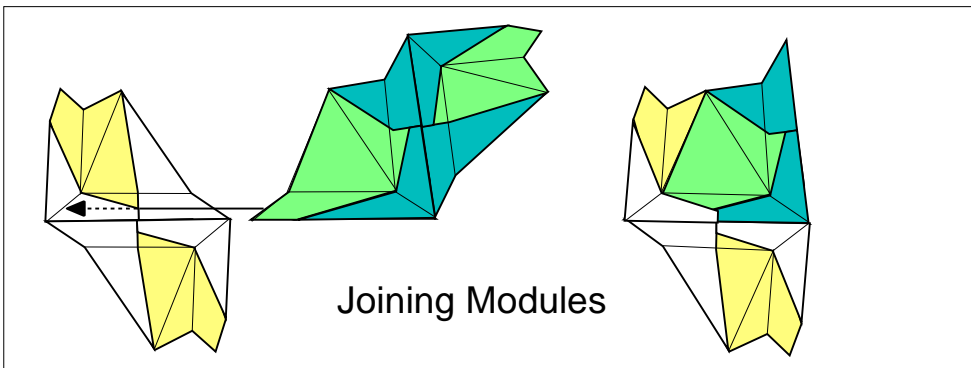


Repeat steps 1 - 4

Crease pattern



Sink both points



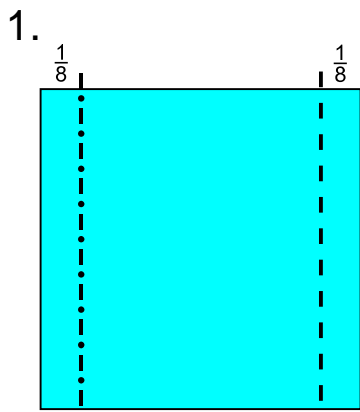
Note: Start with the white side up for models with a different color pattern.

Pointed_Equilateral.xar

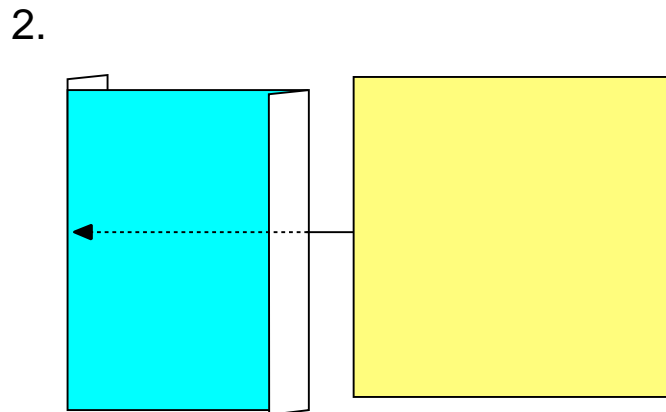
Equilateral Sonobè-Type Module

(inspired by a design by deg farelly)

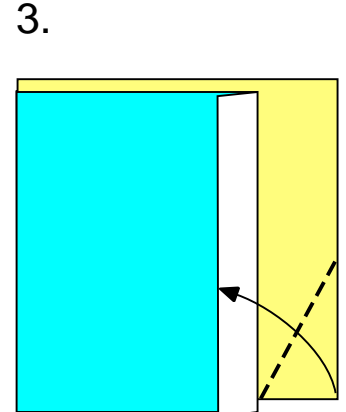
diagrams by Michael Naughton
 (original ©1999) ©2010



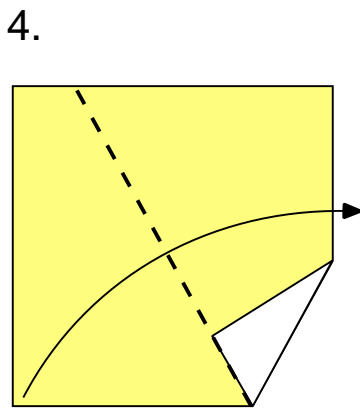
Use a separate sheet to make a template.



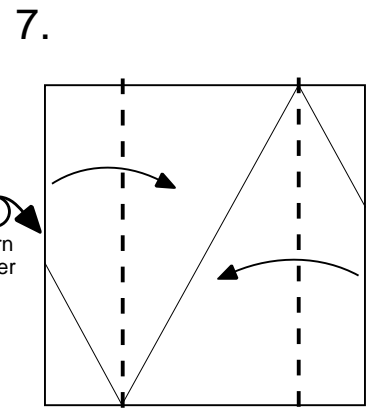
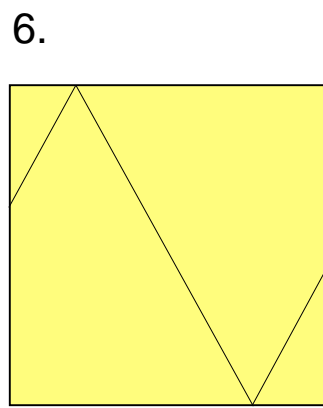
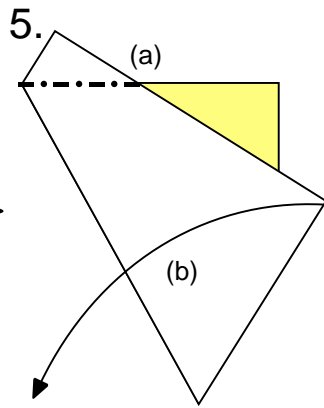
Slide in second sheet until its raw edge meets the crease in the template.



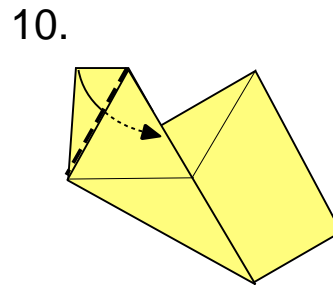
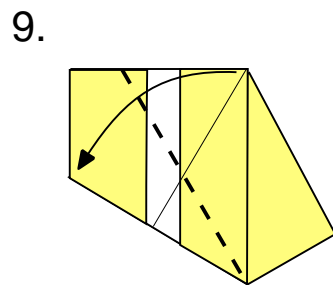
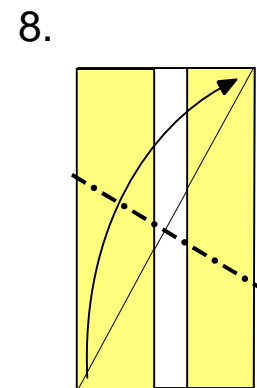
Fold corner to meet raw edge of template



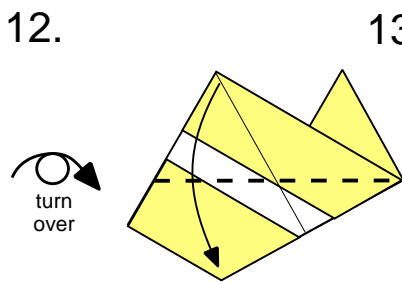
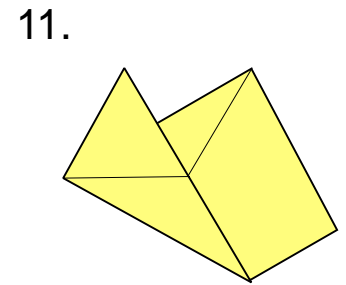
Use paper edge as guide



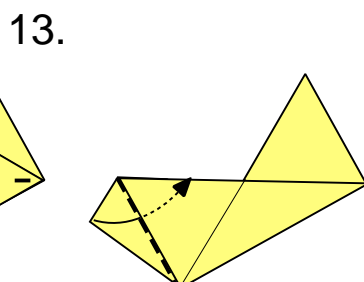
turn over



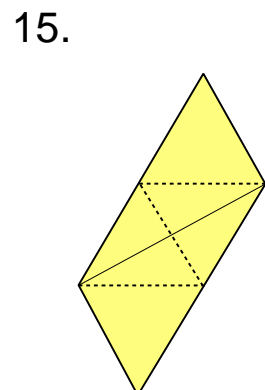
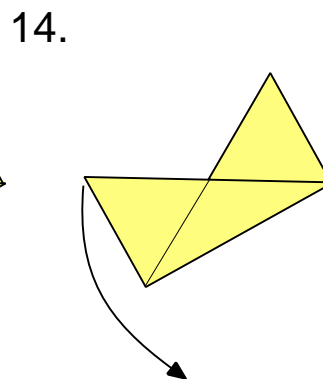
Tuck corner inside



turn over



Tuck corner inside



6-Piece "Hexa Puzzle"

Pieces: 4 x Hexahedron (aka "Takahama's Jewel")
modules: use 3 x G crease pattern

2 x Squashed Cube
modules: use 3 x E & 3 x I crease patterns

Puzzle #1: Arrange all six pieces to form a larger hexahedron.

Puzzle #2: Use five pieces only to form the same hexahedron

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Other Sources of Information:

Origami Paperfolding for Fun by Eric Kenneway p. 64.

Gallery Books 1984 ISBN: 0831766689.

Presents the "Jewel" by Toshie Takahama (uses three modules - referred to elsewhere in this handout as a "three-piece hexahedron").

Origami for the Connoisseur by Kunihiko Kasahara & Toshie Takahama pp. 24, 42 ff

Japan Publications Inc. 1987 ISBN 0-87040-670-1

Presents a number of variations on the module, as well as the Sonobe original. Also some nice material on the relation of the module to various polyhedra.

Origami Omnibus by Kunihiko Kasahara p. 209

Japan Publications Inc. 1988 ISBN 0-87040-696-5

Presents a simple variation of the module, along with various polyhedron-related material.

Mette Units by Mette Pederson

Self Published by the Author 1996

Presents many interesting variations on the Sonobe theme.

FOCA Convention '86 pp. 4-5

Presents my first attempt to diagram the module and show how they interlock. At the time, I had never heard of Mitsunobu Sonobel

FOCA Convention '91 p. 167

Presents an early version of my "Crease Patterns" document. Again, at the time I still knew the module only as "Toshie's Jewel".

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